



Be Right™

# SAFETY DATA SHEET

Product Name PAN Indicator Solution 0.1%

Issue Date 26-Oct-2022

Revision Date 31-Oct-2022

Version 1

## 1. Identification

### Product identifier

Product Name PAN Indicator Solution 0.1%

### Other names

Product Code(s) 2122426

Synonyms None.

Safety data sheet number M00388

UN/ID no UN3082

Pure substance/mixture Mixture

### Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of manganese.

Uses advised against Consumer use.

### Manufacturer, importer or supplier name, address and telephone number

#### Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

### Emergency telephone number

Taiwan

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

## 2. Hazard(s) identification

### Chemical hazard classification

Acute toxicity - Dermal	Category 5
Acute toxicity - Inhalation (Vapors)	Category 5
Acute toxicity - Inhalation (Dusts/Mists)	Category 5
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

### Label elements

**Signal word**

Danger

**Hazard statements**

H313 - May be harmful in contact with skin  
 H318 - Causes serious eye damage  
 H333 - May be harmful if inhaled  
 H360 - May damage fertility or the unborn child  
 H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell  
 P280 - Wear eye protection/ face protection  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician  
 P201 - Obtain special instructions before use  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P405 - Store locked up  
 P501 - Dispose of contents/ container to an approved waste disposal plant  
 P273 - Avoid release to the environment  
 P391 - Collect spillage

**Other hazards**

No information available.

### 3. Composition/information on ingredients

**Chemical Family** Mixture**Substance**

Not applicable.

**Mixture****Chemical nature** aqueous solution.

The product contains no substances known to be hazardous to health or to the environment in concentrations which need to be taken into account.

Chemical name	English chemical name	Formula	CAS No	Percent Range
N,N-Dimethylformamide	N,N-Dimethylformamide	C <sub>3</sub> H <sub>7</sub> NO	68-12-2	20 - 30%
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	(C <sub>2</sub> H <sub>4</sub> O) <sub>n</sub> • C <sub>14</sub> H <sub>22</sub> O	9036-19-5	10 - 13%

### 4. First-aid measures

**Different exposure routes and first aid procedures**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.
<b><u>Most important symptoms and effects</u></b>	Burning sensation. Coughing and/ or wheezing.
<b><u>Self-protection of the first aider</u></b>	Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.
<b><u>Note to physicians</u></b>	Treat symptomatically.

## 5. Fire-fighting measures

<b><u>Suitable Extinguishing Media</u></b>	Product itself does not burn.
<b>Suitable Extinguishing Media</b>	
<b>Small Fire</b>	Dry chemical or CO2.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b><u>Specific hazards arising from the chemical</u></b>	No information available.
<b>Hazardous combustion products</b>	Dimethylamine.
<b><u>Specific/special fire-fighting measures</u></b>	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.
<b><u>Special protective equipment for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## 6. Accidental release measures

<b><u>Personal precautions</u></b>	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapors or mists.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.
<b>Reference to other sections</b>	See section 8 for more information. See section 13 for more information.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	Prevent further leakage or spillage if safe to do so.

<b><u>Methods for cleaning up</u></b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

<b><u>Handling</u></b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Avoid breathing vapors or mists. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.
<b><u>Storage</u></b>	Accessible only for authorized persons. Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.

## 8. Exposure controls/personal protection

<b><u>Engineering controls</u></b>	Showers Eyewash stations Ventilation systems.
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### **Control parameters**

### **Occupational exposure limits**

Legend

See section 16 for terms and abbreviations

### **Biological limit value**

### **Personal protective equipment**

<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand protection</b>	Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016. Wear suitable gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b><u>Hygiene Measures</u></b>	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

### **Information on basic physical and chemical properties**

<b>Appearance</b>	aqueous solution	<b>Odor</b>	Ammonia
<b>Physical state</b>	Liquid	<b>Odor threshold</b>	No data available
<b>Color</b>	Dark red to orange		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	8.0	@ 20 °C
<b>Melting point / freezing point</b>	No data available	
<b>Initial boiling point and boiling range</b>	101 °C / 213.8 °F	
<b>Evaporation rate</b>	0.25 (water = 1)	
<b>Vapor pressure</b>	No data available	
<b>Relative vapor density</b>	No data available	
<b>Specific Gravity</b>	1.044	
<b>Partition coefficient</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Kinematic viscosity</b>	No data available	

**Solubility(ies)****Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

**Solubility in other solvents**

<u>Acid</u>	<u>Soluble</u>	<u>&gt; 1000 mg/L</u>	<u>25 °C / 77 °F</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other information****Metal Corrosivity**

<b>Steel Corrosion Rate</b>	No data available
<b>Aluminum Corrosion Rate</b>	No data available

**Volatile Organic Compounds (VOC) Content**

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
N,N-Dimethylformamide	68-12-2	No data available	X
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	9036-19-5	Not applicable	-

**Explosive properties**

<b>Upper explosion limit</b>	No data available
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<b>Lower explosion limit</b>	No data available
<b>Flammable properties</b>	
<b>Flash point Method</b>	> 94 °C / 201.2 °F CC (closed cup)
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No data available
<b>Lower flammability limit:</b>	No data available
<b>Oxidizing properties</b>	No data available.
<b>Other information</b>	
<b>VOC content</b>	27.01
<b>Bulk density</b>	No information available

## 10. Stability and reactivity

<b><u>Stability</u></b>	Stable under normal conditions.
<b><u>Reactivity</u></b>	No information available.
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b><u>Possibility of hazardous reactions</u></b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b><u>Conditions to avoid</u></b>	Excessive heat.
<b><u>Incompatible materials</u></b>	Strong acids. Strong bases. Strong oxidizing agents.
<b><u>Hazardous Decomposition Products</u></b>	Nitrogen oxides. Carbon dioxide. Carbon monoxide.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	May be harmful by inhalation. May be harmful if inhaled.
<b>Eye contact</b>	Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	May cause irritation. May be harmful in contact with skin.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

#### Acute toxicity

#### Numerical measures of toxicity - Product Information

#### Substance

Test data reported below.

#### Oral Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
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	type	dose	time		sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD <sub>50</sub>	2800 mg/kg	None reported	None reported	IUCLID
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]- .omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	Rat LD <sub>50</sub>	1700 mg/kg	None reported	None reported	NITE

**Dermal Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD <sub>50</sub>	1100 mg/kg	None reported	None reported	IUCLID

**Inhalation (Dust/Mist) Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC <sub>50</sub>	> 5.9 mg/L	4 hours	None reported	IUCLID

**Inhalation (Vapor) Exposure Route**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	6,391.20 mg/kg
ATEmix (dermal)	4,072.60 mg/kg
ATEmix (inhalation-vapor)	40.70 mg/l
ATEmix (inhalation-dust/mist)	5.55 mg/l

**Skin corrosion/irritation**

Based on available data, the classification criteria are not met.

**Mixture**

Test data reported below.

Test method	Species	Reported dose	Exposure time	Results
Standard Draize Test	Human	None reported	24 hours	Mild skin irritant

**Substance**

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-	Existing human experience	Human	None reported	None reported	Not corrosive or irritating to skin	Vendor SDS

omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5						
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**Serious eye damage/eye irritation**

Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

**Mixture**

No data available.

<b>Species</b>
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**Substance**

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Poly(oxy-1,2-ethaned yl), .alpha.-[(1,1,3,3-tetra methylbutyl)phenyl]-. omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	Standard Draize Test	Rabbit	100 mg	72 hours	Corrosive to eyes	RTECS

**Respiratory or skin sensitization**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Substance**

Test data reported below.

**Skin Sensitization Exposure Route**

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

**STOT - single exposure**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Substance**

No data available.

**STOT - repeated exposure**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Substance**

No data available.

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Mixture

No data available.

### Substance

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	9036-19-5	-	-	-	-

### Legend

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA</b>	X - Present

### Germ cell mutagenicity

Based on available data, the classification criteria are not met.

### Mixture invitro Data

No data available.

### Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	DNA inhibition	Human lymphocyte	5 mg/L	None reported	Positive test result for mutagenicity	RTECS

### Mixture invivo Data

No data available.

### Substance invivo Data

Test data reported below.

### Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	None reported	Rat	10200 mg/kg	None reported	Positive test result for	Vendor SDS

iy), .alpha.-[(1,1,3,3-tetra methylbutyl)phenyl]- omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5					mutagenicity	
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**Reproductive toxicity**

Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

**Mixture**

No data available.

**Substance**

Test data reported below.

**Inhalation (Vapor) Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD <sub>Lo</sub>	50 mg/L	6 hours	<b>Paternal Effects</b> Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

**Aspiration hazard**

Based on available data, the classification criteria are not met.

## 12. Ecological information

**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

**Unknown aquatic toxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Mixture****Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Substance****Aquatic Acute Toxicity**

Test data reported below.

**Fish**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	7100 mg/L	PEEN
Poly(oxy-1,2-ethane diyl), .alpha.-[(1,1,3,3-tetra methylbutyl)phenyl ]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	>= 10 mg/L	Vendor SDS

**Crustacea**

Chemical name	Exposure	Species	Endpoint	Reported dose	Key literature references and
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	time		type		sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	7500 mg/L	PEEN
Poly(oxy-1,2-ethane diyl), .alpha.-[(1,1,3,3-tetraethylbutyl)phenyl]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	>= 18 mg/L	ERMA

**Algae**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC <sub>50</sub>	> 500 mg/L	PEEN
Poly(oxy-1,2-ethane diyl), .alpha.-[(1,1,3,3-tetraethylbutyl)phenyl]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	96 hours	<i>Selenastrum sp.</i>	EC <sub>50</sub>	0.21 mg/L	Vendor SDS

**Aquatic Chronic Toxicity**

Test data reported below.

**Fish**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Poly(oxy-1,2-ethane diyl), .alpha.-[(1,1,3,3-tetraethylbutyl)phenyl]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	7 days	<i>Oncorhynchus mykiss</i>	NOEC	0.004 mg/L	EPA

**Persistence and degradability****Mixture**

No data available.

**Bioaccumulation****Mixture**

No data available.

**Partition coefficient**

Not applicable

**Mobility****Soil Organic Carbon-Water Partition Coefficient**

Not applicable

**Other adverse effects**

No information available.

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disrupters - Evaluated Substances	Endocrine disrupting potential
N,N-Dimethylformamide	Group III Chemical	-	-

(20 - 30%) CAS#: 68-12-2			
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phen yl]-.omega.-hydroxy- (10 - 13%) CAS#: 9036-19-5	Group III Chemical	-	-

### 13. Disposal considerations

#### Disposal methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Do not reuse empty containers.

### 14. Transport information

#### DOT

**UN/ID no** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**DOT Technical Name** Octylphenol ethoxylate  
**Transport hazard class(es)** 9  
**Packing Group** III  
**Reportable Quantity (RQ)** Ammonium acetate: RQ kg= 11287.92, Dimethylformamide: RQ kg= 168.09  
**Special Provisions** 8, 146, 173, 335, IB3, T4, TP1, TP29  
**Emergency Response Guide Number** 171

#### IMDG

**UN number or ID number** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**IMDG Technical Name** Octylphenol ethoxylate  
**Transport hazard class(es)** 9  
**Packing Group** III  
**EmS-No** F-A, S-F  
**Special precautions for user** 274, 335

#### IATA

**UN number or ID number** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**IATA Technical Name** Octylphenol ethoxylate  
**Transport hazard class(es)** 9  
**Packing group** III  
**ERG Code** 9L  
**Special precautions for user** A97, A158

#### China

**UN number or ID number** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**China Technical Name** Octylphenol ethoxylate  
**Transport hazard class(es)** 9  
**Packing Group** III  
**Environmental hazards** Yes

**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol ethoxylate), 9, III

#### Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.  
If the item is not regulated, the Chemical Kit classification does not apply.

## 15. Regulatory information

### Regulatory information

#### National Regulations

See section 8 for national exposure control parameters

#### **Applicable regulations:**

- Labor Safety and Health Rules
- Standards of Permissible Exposure Concentrations of Airborne Hazardous Substances in Workplaces
- Road traffic safety rules
- Regulations governing the safe transport of dangerous goods by air
- Rules on the safe carriage of dangerous goods by ship
- Rules on transport by rail

### **Toxic and Concerned Chemical Substances Control Act**

**Toxic and concerned chemical substances: N,N-Dimethylformamide**

Chemical name	Class	Threshold limits
N,N-Dimethylformamide	Class 2	50 kg TRQ

### International Inventories

<b>TCSI</b>	Contact supplier for inventory compliance status.
<b>TSCA</b>	Complies.
<b>DSL/NDSL</b>	Complies.
<b>EINECS/ELINCS</b>	Complies.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Complies.
<b>KECL - Existing substances</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.
<b>AICS</b>	Complies.
<b>NZIoC</b>	-.

TCSI - *Taiwan Chemical Substance Inventory*

TSCA - *United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL - *Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS - *European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS - *Japan Existing and New Chemical Substances*

KECL - *Korean Existing and Evaluated Chemical Substances*

IECSC - *China Inventory of Existing Chemical Substances*

PICCS - *Philippines Inventory of Chemicals and Chemical Substances*

AICS - *Australian Inventory of Chemical Substances*

NZIoC - *New Zealand Inventory of Chemicals*

### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## 16. Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

### Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

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<b>Revision Note</b>	None
<b>Reference Sources for Section 11</b>	See Section 11: TOXICOLOGICAL INFORMATION

### Disclaimer

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**